UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/571,062	03/08/2006	Andrew Rayner	36-1966	1724

23117 7590 11/12/2009

NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

EXAMINER	
PHUNG, LUAT	
ART UNIT	PAPER NUMBER
2464	
MAIL DATE	DELIVERY MODE
11/12/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/571,062	RAYNER, ANDREW	
	Examiner	Art Unit	
	LUAT PHUNG	2464	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 June 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's arguments, see pages 12 and 13, filed 30 June 2009, with respect to the rejection(s) of claim(s) 1 and 21 under 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of different interpretation of the previously applied reference.

2. Claims 1-21 are pending.

3. Claims 1 and 17-21 have been amended.

4. Claims 1-21 are rejected.

5. On page 13, applicant's representative argues that:

Ishioka does not solve the deficiency of Omuro.

Examiner respectfully disagrees.

Ishioka in view of Omura indeed teaches the subject mater of at least the independent claims as presented below in this office action.

6. On page 13, applicant's representative argues that:

Accordingly, independent claims 1, 14, and 21, and their respective dependent claims, patentably define over Omuro.

Examiner respectfully disagrees.

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically

pointing out how the language of the claims patentably distinguishes them from the references.

Specifically the rejection of claim 14 is not responded to. Applicant's representative appears to assume the scope of claim 14 is the same as that of claim 1, however claim 14 does not recite the "change of the difference", inter alia, as recited in claim 1. The rejection of claim 14 is thus maintained.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 4 and 21 are alternately rejected under 35 U.S.C. 102(b) as being anticipated by Ishioka (US Pub. 2002/0071391).

Regarding **claims 1 and 21**, Ishioka discloses a method of determining whether one or more of at least two signal paths has been altered, the paths each having a transit time associated therewith; (abstract) and a receiving station which is connected to a plurality of paths, each path having a transit time associated therewith for data transport along that path, the receiving station having means for performing the method; (abstract; Fig. 2) the method comprising the steps of:

monitoring the difference between the transit time of a first signal path and the transit time of a second signal path such that a change in the difference between the transit times of the two paths is detected; (Fig. 2, 6; para. 27-33, 46-49, 51; computing

difference of transit time between routes using Ta, Sa, Tb, Sb, and repeat on a regular basis, e.g., every 3 hours to determine the change in the difference; screen 300 visualizes the result of a series of tests for four different routes, the vertical axis represents relative delay time of each route; route 3, for example, shows the change between 6:00 am and 9:00 am, from more than 20ms to 0ms, which remains until 6:00 pm, suggesting the route being ideal for business users—there's no change in delay, which stays at minimal level, during business hours) and,

in dependence at least in part on any such detected change, generating an alarm signal. (Fig. 6; para. 46, 51; tests run on a regular basis and the result displayed on monitor screen, allowing network operator to clearly understand traffic condition in each time slot, i.e., seeing the change of the difference)

Regarding **claim 14**, Ishioka discloses a receiving station for receiving data from a sending station sent over at least a first path and a second path (Fig. 2, Sending End, Receiving End, Route Ra, Route Rb), the paths each carrying respective marker signals (Fig. 2, Reference Test Packet P0, Test Packet P1), the receiving station having a reading stage for detecting the presence of marker signals, and for monitoring the time of arrival of marker signals from one path relative to the time of arrival of marker signals from the other path (Fig. 2, time of arrival of P0 relative to that of P1), and a processing stage for determining, in dependence at least in part on the monitored arrival times, the difference in transit times between marker signals travelling along the first path and the transit time of marker signals travelling along the second path. (Fig. 2, Ta, Sa, Tb, Sb; Fig. 6; para. 27-33, 51; computing difference of transit time between routes using Ta,

Sa, Tb, Sb, and repeat on a regular basis, e.g., every 3 hours to determine the change in the difference)

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Omuro et al (US 5,241,534) in view of Ishioka (US Pub. 2002/0071391).

Regarding **claims 1 and 21**, Omuro discloses a method of determining whether one or more of at least two signal paths has been altered, the paths each having a transit time associated therewith; (abstract) and a receiving station which is connected to a plurality of paths, each path having a transit time associated therewith for data transport along that path, the receiving station having means for performing the method; (abstract; Fig. 7) the method comprising the steps of:

monitoring the difference between the transit time of a first signal path and the transit time of a second signal path such that the difference between the transit times of the two paths is detected; (Fig. 7; col. 7, lines 55+; sending a cell to the rerouting path 25 and the original path 24 and measuring the transmission delay time in each of the rerouting path and the original path; obtaining a difference between the transmission delay times) and,

generating an alarm signal. (Fig. 8; col. 7, lines 64+; the difference between the transmission relay times being notified to the change-back processing apparatus 11)

Omuro discloses all of the subject matter except the following:

a change in the difference is detected, and

in dependence at least in part on any such detected change, generating an alarm signal.

Ishioka from an analogous art discloses:

a change in the difference is detected, (Fig. 2, 6; para. 46-49; screen 300 visualizes the result of a series of tests for four different routes, the vertical axis represents relative delay time of each route; route 3, for example, shows the change between 6:00 am and 9:00 am, from more than 20ms to 0ms, which remains until 6:00 pm, suggesting the route being ideal for business users—there's no change in delay, which stays at minimal level, during business hours)

in dependence at least in part on any such detected change, generating an alarm signal. (Fig. 6; para. 46, 51; tests run on a regular basis and the result displayed on

monitor screen, allowing network operator to clearly understand traffic condition in each time slot, i.e., seeing the change of the difference)

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention to repeat the tests on a regular basis to determine the change in the transit time as suggested by Ishioka in the network of Omuro. The motivation for doing so would have been to select a best route for data transmission.

Regarding **claim 2**, Omuro further discloses wherein the difference between the transit times of the paths is monitored by:

introducing marker signals onto the first and second paths at respective entry points; (Fig. 7, 9; col. 9, lines 4+; generating two delay measuring cells which are respectively transmitted to the virtual paths 24 and 25; transmission time being written into cell transmission time field of each delay measuring cell)

receiving the marker signals at respective collection points along the first and second paths; (Fig. 7, 9; col. 9, lines 41+; obtaining reception times when each delay measuring cell is received) and,

monitoring the arrival times of the marker signals in one path relative to the arrival times of marker signals in the other path. (Fig. 7, 9; col. 9, lines 56 to col. 10, line 3; obtaining and recording the cell arrival times for both the rerouting path and the original path)

Regarding **claim 3**, Omuro further discloses wherein for each marker signal introduced onto one path, a corresponding marker signal is introduced onto the other path, and wherein the difference in the arrival times of corresponding marked signal is

used to monitor the difference in the respective transit times associated with the first and second paths. (col. 9, lines 22+)

Regarding **claim 4**, Omuro further discloses wherein the difference in the time of arrival of marker signals is monitored. (col. 9, lines 22+)

Regarding **claim 5**, Omuro further discloses including the step of introducing into each marker signal an indication of the relative time at which that marker signal was introduced onto a path, the relative time being measured relative to a clock source. (col. 9, lines 22+)

Regarding **claim 6**, Omuro further discloses wherein a marker signal in one stream includes an indication of the time at which that marker signal was introduced relative to the time at which a marker was introduced into the other stream. (col. 9, lines 22+)

Regarding **claim 7**, Omuro further discloses wherein the first and second paths extend between a common upstream location and a common downstream location. (Fig. 7; col. 8, lines 20+)

Regarding **claim 8**, Omuro further discloses wherein the first and second paths extend between a common upstream location and a common downstream location and wherein the common upstream clock source is located at the upstream location. (Fig. 7, 8; col. 8, lines 20+)

Regarding **claim 9**, Omuro further discloses wherein each path carries a respective signal stream, the signal stream carried by the first path being representative of the same content as the signal carried by the second path. (Fig. 7; col. 8, lines 45+)

Regarding **claim 10**, Omuro further discloses wherein the relative time of arrival of marker signals is measured relative to a common downstream clock source located at the downstream location. (Fig. 7, 8; col. 8, lines 20+)

Regarding **claim 11**, Omuro further discloses wherein the difference between the transit times of the two paths is determined by receiving marker signals from respective entry points on the first and second paths, and monitoring the arrival times of the marker signals. (Fig. 7, 9; col. 9, lines 56 to col. 10, line 3)

Regarding **claim 12**, Omuro further discloses wherein each marker signal includes a time stamp indicative of the time at which that marker signal was introduced onto a path relative to a clock source (col. 8, lines 39+), the method including the further step of reading the time stamps and taking into account the time difference between the time at which packets have been introduced onto the first and second paths when determining the difference in the transit times of the two paths. (col. 9, lines 41+)

Regarding **claim 13**, Omuro discloses all of the subject matter as previously presented in this office action except wherein each path carries video data. However Omuro discloses transmission of data in an ATM network. Examiner takes official notice that it is well known to one of ordinary skill in the art at the time of the invention that ATM is used for high-speed data transmission such as video. Thus it would have been obvious to use the ATM network of Omuro to carry video across each of the rerouting path and original path.

Regarding **claim 14**, Omuro discloses a receiving station for receiving data from a sending station sent over at least a first path and a second path (Fig. 7; col. 8, lines

20+; node 22 receiving delay measuring cell from node 21 sent over rerouting path and original path), the paths each carrying respective marker signals (col. 9, lines 22+; each path carrying cells containing time fields), the receiving station having a reading stage for detecting the presence of marker signals (col. 9, lines 41+), and for monitoring the time of arrival of marker signals from one path relative to the time of arrival of marker signals from the other path (col. 9, lines 41+), and a processing stage for determining, in dependence at least in part on the monitored arrival times, the difference in transit times between marker signals travelling along the first path and the transit time of marker signals travelling along the second path. (col. 9, line 41 to col. 10, line 20).

Omuro discloses all of the subject matter as disclosed above. However assuming *in arguendo* that Omuro does not disclose *determining the difference in transit times between marker signals traveling along the first path and the transit time of marker signals traveling along the second path.* Ishioka discloses such a difference (Fig. 2, 6; para. 46-49) Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention to determine the difference in the transit time as suggested by Ishioka in the network of Omuro. The motivation for doing so would have been to select a best route for data transmission.

Regarding **claim 15**, Omuro further discloses wherein the processing stage is configured to perform the following steps:

(i) calculate the difference between the transit time of a marker on one path and the transit time of another marker on the other path; (col. 9, line 65 to col. 10, line 3)

Omuro further discloses calculate the difference in transit time associated with received pairs of markers (col. 7, lines 55+; calculating the guard time, which is the difference between the times it takes to travel the two paths) and generate an alarm signal (col. 7, lines 64+). However Omuro does not explicitly disclose:

(ii) repeat step (i) for each pair of subsequently received markers; and,

(iii) if a change in the difference reaches a threshold value, generate an alarm signal.

Ishioka from an analogous art discloses:

(ii) repeat step (i) for each pair of subsequently received markers; (Fig. 2, 6; para. 46-51; conduct tests on a regular basis, e.g., every three hours) and,

(iii) if a change in the difference reaches a threshold value, generate an alarm signal. (Fig. 6; para. 46, 51; tests run on a regular basis and the result displayed on monitor screen, allowing network operator to clearly understand traffic condition in each time slot, i.e., seeing the change of the difference)

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention to repeat the tests on a regular basis to determine the change in the transit time as suggested by Ishioka in the network of Omuro. The motivation for doing so would have been to select a best route for data transmission.

Regarding **claim 16**, Oshioka further discloses wherein an alarm signal is generated only if the threshold value has been reached a predetermined number of times within a time period. (para. 42, 46, 49; notifying selected route after a series of evaluation tests)

Regarding **claim 17**, Omuro further discloses the receiving and sending stations being connectable to the network, the sending station being configured, when connected to the network to: send data on a plurality of paths, the data including marker signals, each marker signal including a respective time stamp, the time stamp of a marker signal being indicative of the relative time at which that marker signal was transmitted. (Fig. 7; col. 8, line 20 to col. 9)

Regarding **claim 18**, Omuro further discloses wherein the sending station includes a common clock source, the indication of a relative time included in each stamp being a time measured relative to the common clock source. (col. 9, lines 22+)

Regarding **claims 19 and 20**, Omuro discloses all of the subject matter except *wherein the sending station and the receiving station are separated by a distance of more than 10 km, and wherein the distance separating the sending station and the receiving station is at least 100 km.* However Omuro discloses a number of nodes separating the two end nodes (col. 2, lines 24+). Examiner takes official notice that it is well known to one of ordinary skill in the art at the time of the invention that the distance between two network nodes is a design choice. Thus it would have been obvious to implement the sending station being located at least 10 km or 100 km from the receiving station in order to meet the service requirements.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUAT PHUNG whose telephone number is (571) 270-

3126. The examiner can normally be reached on M-Th 7:30 AM - 5:00 PM, F 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Q. Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/L. P./

Examiner, Art Unit 2464

/Ricky Ngo/

Supervisory Patent Examiner, Art Unit 2464